

penetrating from one cell to another. As to any connexion between this *Amœba* and that which emerges from an apparent spore-capsule, and as to the nature and object of the ulterior conjugation and metamorphosis of the globules, I will not now hazard an hypothesis. The well-known large eggs of the Rotifera and Crustacea cannot be enclosed within these developmental structures. Lastly, I have made no researches respecting the construction of the lid-like covers of the apertures, which would still be particularly deserving of notice even if the capsule protruded from the joint-cell were found to be nothing more than a diseased product induced by the operation of the parasitic animal germ.

These researches were made in June and in the beginning of July; and I have been unable to verify them at a later period of the year.

[To be continued.]

XXVIII.—*Notes on the Byblus-Rush and the Byblus-Bok.*

By JOHN HOGG, M.A., F.R.S., F.L.S. &c.

IN a paper "On Vessels made of the *Papyrus*," which I communicated to the 'Magazine of Natural History' in 1829 (vol. ii. p. 324, &c.), I gave a sketch (fig. 88) of an ancient vessel used on the Nile in Egypt, taken from the famous Mosaic pavement discovered at Palestrina (Præneste), and which is constructed with a high and *long* prow. A kind of boat used on the large Lake Nyanza, in Equatorial Africa, is shown in Capt. Speke's 'Journal,' p. 391, as having a *prow* somewhat *similar* in length, and which he describes as "standing out like the neck of a syphon or swan."

This coincidence, then, is not unworthy of notice, as showing that, in all probability, the Nyanza boat retains the early form of that very ancient Nile vessel. Capt. Speke does not say of what materials the boat is composed, and whether the *Byblus-rush*, now abundant in that lake-district of Africa, is ever used in "filling up the joints on the inside," or for forming the ordinary "sails," as it was in the time of Herodotus (Euterpe, cap. 96).

The *Byblus-rush* ($\beta\upsilon\beta\lambda\omicron\varsigma$ of Herodotus, or the *Papyrus antiquorum* of Sprengel) was once so common on the banks of the Nile that Ovid assigned the epithet *Papyrifera* to that holy river. Nor was the plant itself esteemed *less holy*, inasmuch as it was used by the Egyptian priests for the ornamentation of their statues and temples, and for a frequent model of columns, and as a representative in the ancient hieroglyphics. But of late

years travellers have *not* found any of it in the *Lower Nile* and its adjacent waters; and thus have been confirmed these words of Isaiah (xix. 7), which allude to the Nile: “the *paper-reeds* (translated *πάπυρος* in the Septuagint) by the brooks.....shall wither, be driven away, and be *no more*.” So it was with great pleasure that I recently read in Capt. Speke’s ‘Journal’ of its vast abundance in the *Upper* or *White Nile* (the *Bahr el Abiad*) and in the many lakes near the equator. It seems also common in the Island of Zanzibar on the east coast, and along some of the rivers on the west side of Africa.

Capt. Speke (at p. 223) has well represented this noble and graceful rush, with its large panicle or head, in his plate of the “*Little Windermere Lake*,” where its forest-like presence along the shores bears testimony to the accuracy of Cassiodorus’s description of it (although hitherto considered by many scholars as an imaginary account) in this passage:—“*surgit Nilotica sylva sine ramis, nemus sine frondibus, aquarum seges, paludum pulchra cæsaries*” (lib. xi. cap. 38).

Signor Domenico Cyrillo published at Parma, in 1796, a splendid monograph of this Papyrus plant, with some large illustrations. When in Sicily, in May 1826, I saw it growing in luxuriance (but, I concluded, only *naturalized*) in the fountain of *Cyane* (La Pisma), which flows into the river Anapus to the south-west of Syracuse; and I understand it still flourishes in the same clear water. I made inquiry for it in Calabria, where, according to Linnæus and Persoon, it was mentioned as growing; but I could not ascertain the truth of its existence in that province. Some old authorities also related that it was indigenous in Syria; and I find that this has lately been confirmed by Dr. Hooker, who observed it a short time ago in the marshes and along the margins of the Lake Samachonitis, now *Bahr el Huleh*.

For a fuller account of the *Byblus*, and of its many former uses, I may refer the reader to my work on the “*Classical Plants of Sicily*,” originally published in Sir William Hooker’s ‘*Botanical Journal*,’ 1834.

In the same plate of Speke’s sketch, that excellent animal-artist, Mr. Wolf, has given the figures of a fine Antelope, called *Nzoé*, or “*Water-Bok*.” The male of this species bears a pair of noble, long, twisted horns; and he is said to be “closely allied to a *Water-bok* found by Dr. Livingstone on the Ngami Lake.” It is an aquatic species; and, from living in the moist element, the hair of its coat is “long, and of such excellent quality that the natives prize it for wearing almost more than any other of the Antelope tribe.” Its chief food being the long filaments of

the panicles of the *Byblus-rush*, in order to record this interesting fact in connexion with so important an African plant as the *Papyrus* or *Byblus*, I should prefer to call this new Antelope *Tragelaphus bybtophagus* instead of "*T. Spekii*," the name suggested by Dr. P. L. Sclater. Another character of this animal is very worthy of note—namely, the extreme length of the *toes* or fore parts of the hoofs, so that "it could hardly walk on the dry ground," but of course most useful for traversing the mud and marshy shores of the lakes. This provision of nature reminds me of the *long toes* of the Water-rail, Gallinule, and other kinds of the family Macrodaetyli of Cuvier, which he characterizes as having "les doigts des pieds fort longs et propres à marcher sur les herbes des marais;" and in like manner, it adapts that Antelope to walking over, and being supported upon, the long stems of the *Byblus-rush* and other fluviatile "plants so densely interwoven in the waters"—or, in the exact words of the philosopher Seneca (Nat. Quæst. lib. vi. cap. 8), "ita implicitæ aquis herbæ"—not only of the Upper Nile itself, but also of the reservoir-lakes which feed that mighty and sacred river.

Feb. 19, 1864.

XXIX.—*Observations on Raphides and other Crystals.*

By GEORGE GULLIVER, F.R.S.

[Continued from p. 215.]

Smilacææ.—The following officinal drugs were obtained from the authentic dispensary of the Society of Apothecaries, through the courtesy of its worthy treasurer, Mr. Ward:—Red Jamaica Sarza, Honduras Sarza, Guatemala Sarza, and solid extract of Sarza. All the three roots abounded in raphides, generally seen within oblong cells, which, in the Guatemala specimen, often appeared as beautiful chains along the liber. This sample was remarkable for the scantiness of its starch, scarcely a trace of which could be detected; while the Red Jamaica and Honduras abounded in starch-granules and their cells. In the extract no raphides could be found; but it contained numerous quadratic octahedrons, about $\frac{1}{25000}$ th of an inch in diameter, and exactly resembling those microscopic crystals which have been usually regarded as composed of oxalate of lime. These crystals are most easily found by diluting the extract with water, and then letting them subside to the bottom for collection. The examination of the officinal American sort will be found noted under *Araliacææ*.

Dioscoreacææ.—In all the few species yet examined we have